16 Robert Boyer Lane, Bracebridge, ON P1L 1R9
Tel: 647-795-8153 | www.pecg.ca

Environmental Impact Study

149 Dunlop Street East, City of Barrie

Palmer Project #
2110601

Prepared For
Mr. Frank Crocco

June 23, 2023

16 Robert Boyer Lane, Bracebridge, ON P1L 1R9
Tel: 647-795-8153 | www.pecg.ca

June 23, 2023

Mr. Frank Crocco
Dunlop Developments (Barrie) Inc. c/o
CIR Contracting
129 Rowntree Dairy Road, Unit No. 4
Vaughan, Ontario
L4L 6C9

Dear Mr. Frank Crocco:

Re: Environmental Impact Study
Project #: 2110601

Palmer is pleased to provide the following Environmental Impact Study (EIS) report for the proposed development at 149 Dunlop Street East in the City of Barrie. The EIS contains the results of an assessment of existing natural heritage features and applicable environmental legislation through a general background review, onsite field investigations, and review of relevant policy documents. Based on the findings and recommendations of the report, it is our opinion that with the implementation of the mitigation measures as provided, the proposed development is environmentally feasible and no negative impacts to the natural environment are expected consistent with the applicable policies. Please let us know if you have question or comments on this submission.

Yours truly,

Dirk Janas, B.Sc.
Principal, Ecologist

Table of Contents

List of Figures

List of Tables

List of Appendices

1. Introduction

Palmer is pleased to provide the following Environmental Impact Study (EIS) for the Subject Property located 149 Dunlop Street East, City of Barrie (**Figure 1**). This EIS has been completed as part of a proposal to re-develop an existing commercial block from commercial development use into a high-rise residential structure consisting of a 25-storey condominium tower complex.

The Subject Property is 0.16 hectares (ha) in area and is located at the southeast corner of Dunlop Street East and Mulcaster Street. It is surrounded by existing commercial and residential developments to the north and west, the Lake Simcoe shoreline to the south and southeast, and Sam Cancilla Park to the east. The southeastern portion of the Subject Property comprises lands regulated by the Lake Simcoe Region Conservation Authority (LSRCA), associated with the shoreline area of Lake Simcoe.

The objective of this study is to complete a background review and desktop analysis, conduct field studies to assess the natural heritage features and their functions, assessment of potential impacts from the proposed development, and provide mitigation measures. Investigations and impact assessment for the EIS are for the natural features located directly adjacent to the Subject Property.

2. Environmental Policy

Relevant planning policies, legislation, and regulatory requirements pertinent to this assessment are summarized in the following sections. The general relevance of these policies to the Subject Property is also noted. More detailed analysis of policy implications is provided in subsequent sections of this report where relevant.

2.1 Provincial Policy Statement (2020)

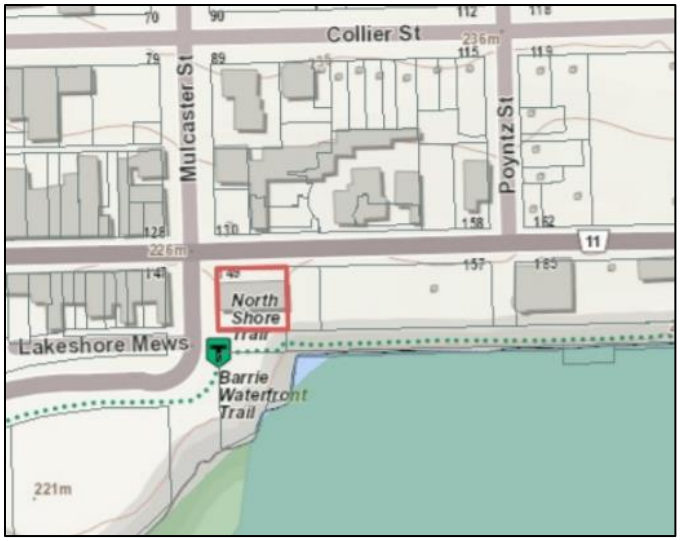
The Provincial Policy Statement (PPS, 2020) provides direction to regional and local municipalities regarding planning policies for the protection and management of natural heritage features and resources (Ontario Ministry of Municipal Affairs and Housing, 2020). Section 2.1 of the PPS defines ten natural heritage features (NHF) and adjacent lands and provides planning policies for each. Of these NHF, development is not permitted in:

- Significant Coastal Wetlands;
- Significant Wetlands in Ecoregions 5E, 6E and 7E;
- Fish Habitat, except in accordance with provincial and federal requirements; or
- Habitat of species designated as Endangered and Threatened, except in accordance with provincial and federal requirements.

Additionally, unless it can be demonstrated through an EIS that there will be no negative impacts on the natural features or their ecological functions, development and site alteration are also not permitted in:

- Significant Wetlands in the Canadian Shield north of Ecoregions 5E, 6E and 7E;
- Significant Woodlands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Valleylands in Ecoregions 6E and 7E (excluding islands in Lake Huron and the St. Mary's River);
- Significant Wildlife Habitat;
- Significant Areas of Natural and Scientific Interest;
- Other Coastal Wetlands in Ecoregions 5E, 6E and 7E; and
- Lands defined as *Adjacent Lands* to all the above natural heritage features.

Each of these NHF is afforded varying levels of protection subject to guidelines, and in some cases, regulations. The Subject Property is located in Ecoregion 6E (Crins, Gray, Uhlig, & Wester, 2009). There are no NHF, including any woodlands or wetlands identified on NHIC Biodiversity Mapping, on the Subject Property (**Map A**) (Ministry of Natural Resources and Forestry, 2021).



Map A. MNRF NHIC Biodiversity Mapping (property boundary in red, the natural heritage system associated with Lake Simcoe in light green).

LEGEND

Subject Property (0.16 ha)

Key Map

20 10 0 20

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

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Page Size: Letter (8.5 x 11 inches)

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NORTH

CLIENT

CIR Contracting

PROJECT

149 Dunlop Street East, Barrie

TITLE

Site Location

Palmer™

REF. NO. 2110601-1-1

Figure 1

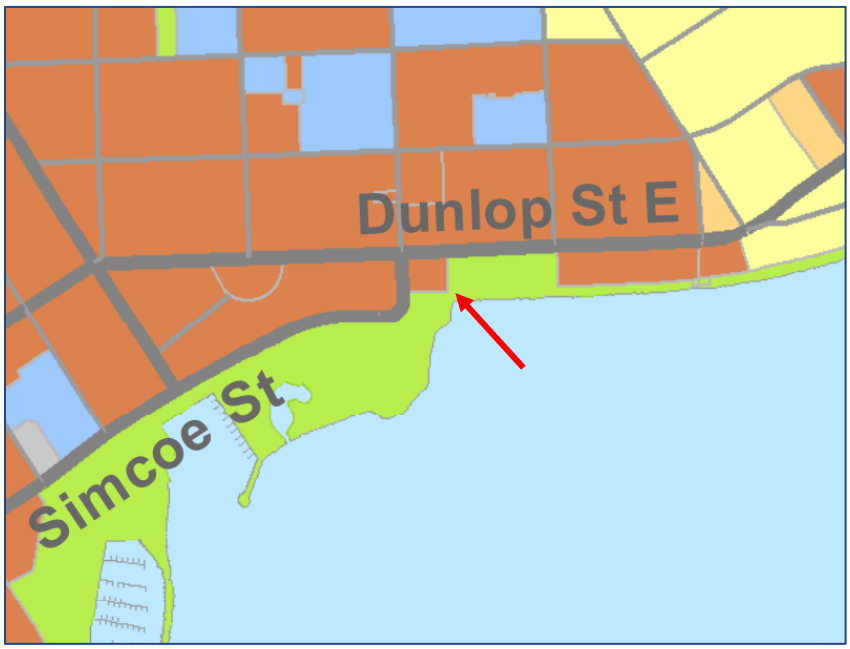
Document Path: G:\Shared drives\Projects 2021 (21001 to 21123)\21106 - CIR Contracting\2110601 - 149 Dunlop Street East, Barrie\GIS\1_Workspace\Task 2 - Ecology Figures\2110601_1-1_Site Location.mxd

2.2 City of Barrie Official Plan (2023)

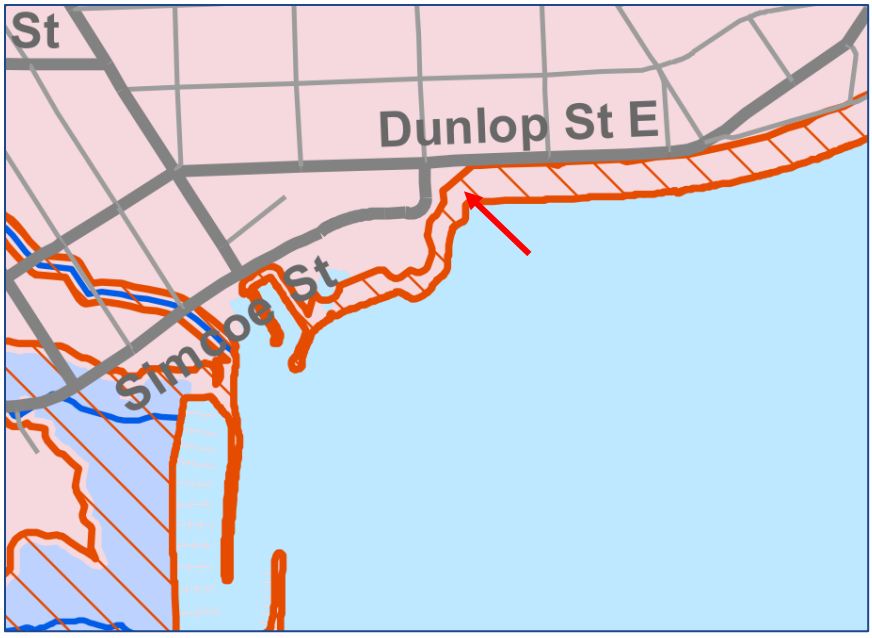
The purpose of the City of Barrie Official Plan (2023) is to help "*guide Barrie's growth according to the collective desires and common viewpoints that we share about the city's future. The Plan responds to our community's land use, development, and conservation goals."*

Map 2: Land Use Designations of the City of Barrie's Official Plan (Adopted – April 2023) identifies the entire Subject Property designated as "High Density" (**Map B**). Immediately south and east of the Subject Property exists lands designated as "Greenspace", associated with the park and the Lake Simcoe shoreline. As per the City OP, Schedule F indicates that the southeastern portion of the subject property comprises lands regulated by the Lake Simcoe Region Conservation Authority (LSRCA), associated with the shoreline area of Lake Simcoe (**Map C**).

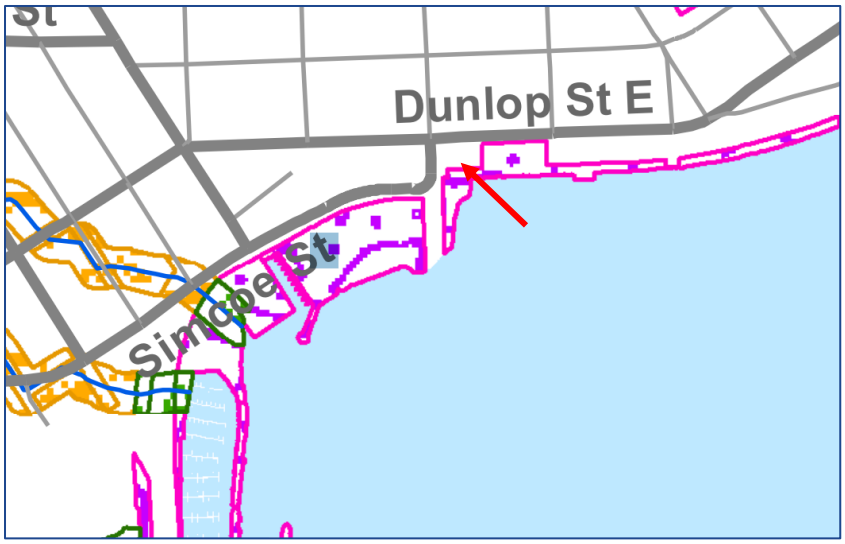
A review of *Natural Heritage Resources* mapping (Schedule H) of the City of Barrie's 2018 Official Plan (**Map D**) identifies the Subject Property as being located within 30 m of lands designated as "Natural Heritage Resources Level 3". As detailed in Section 5.4.2.3 of Barrie's Official Plan, "*Level 3 resources represent more regionally or locally significant features and supporting components of the Natural Heritage System network."* An EIS is required for any development proposals located within 30 m of Level 3 areas identified on Map 3 of the City's Official Plan.



Map B. Barrie OP Land Use mapping (Map 2) (Reddish brown = High Density, green polygon = Greenspace)



Map C. Barrie OP Conservation Authority Regulation Limits mapping (Appendix 1), demonstrating LSRCA Regulation Limits (Red hatching)



Map D. City of Barrie Natural Heritage Resources mapping (Map 3) (Level 3 with Existing Development Designation Subject to 3.5.2.4 = Pink and Purple area)

2.2.1 Level 3 Natural Heritage Resources

With regards to Natural Heritage Resource areas designated as the following:

> *a) Level 3 resources represent more regionally or locally significant features and supporting components of the Natural Heritage System network including: regionally significant life science areas of natural and scientific interest; woodlands greater than 0.5 hectares and less than 4.0 hectares; woodlands within 30.0 metres of a Level 2 feature; wetlands less than 0.5 hectares in*

size; cultural thicket or cultural meadow communities contiguous with woodland and wetland patches; and connectivity linkages.

b) Development may be permitted if the proposal ensures the protection and buffering of the significant feature and/or retains the supporting function of the feature.

c) An environmental impact study will be required to be completed by a qualified professional in support of any proposed development or site alteration in or within 30.0 metres of an area identified as Level 3 on Map 3.

2.2.2 Tree Preservation

In the City of Barrie, the Tree Preservation By-Law (No.2014-115) outlines the guidelines for protection trees in the City of Barrie. The purpose of the City's *Tree Preservation By-Law* is to *"prohibit or regulate the injuring or destruction of trees on private property in the City of Barrie"*. This by-law applies to all trees situated on City property as well as trees in private property found within an ecological woodlot of at least 0.2 ha (1/2 acre). The boundary of the woodland is defined by its ecological limit and not by private property boundaries.

Under Section 5(d and e), the unavoidable injury or destruction of trees necessitated by works under an approved site plan by the City are exempt from the By-Law.

OP Section 2.1.3 Tree Protection Manual (2010)

The *Tree Protection Manual* describes the process of obtaining approval to remove trees in a development area within the City of Barrie. A tree inventory, assessment, and preservation plant must be prepared, as part of the pre-submission of the application. Step-by-step explanations are provided on how to assess and determine preservation of trees and what standard mitigation measures should be employed during construction.

2.3 Lake Simcoe Protection Plan (LSPP)

The Lake Simcoe Protection Plan (LSPP, 2008) has separate requirements depending on whether the proposed development is located within or outside an existing settlement area.

As per Section 6.32 of the LSPP, Settlement Areas are defined as "*urban areas and rural settlement areas (e.g., cities, towns, villages and hamlets) where development is concentrated, and lands are designated in municipal official plans for development over the long term*". As described in Section 2.2, above, the Subject Property is identified within the City of Barrie OP as supporting a "City Centre" land use. Furthermore, the Subject Property is located in an area of Barrie that is extensively developed for urban uses. As such, the Subject Property has been identified as being located within a Settlement Area, and is therefore subject to the following policies under the Act:

6.32-DP *Policies 6.32 - 6.34 apply to existing settlement areas and areas of Lake Simcoe adjacent to these lands, including the littoral zone, and these*

areas are not subject to policies 6.1 – 6.3, 6.5, 6.11 and policies 6.20 - 6.29.

6.33-DP *An application for development or site alteration shall, where applicable:*

a. increase or improve fish habitat in streams, lakes and wetlands, and any adjacent riparian areas;

b. include landscaping and habitat restoration that increase the ability of native plants and animals to use valleylands or riparian areas as wildlife habitat and movement corridors;

c. seek to avoid, minimize and/or mitigate impacts associated with the quality and quantity of urban run-off into receiving streams, lakes and wetlands; and

d. establish or increase the extent and width of a vegetation protection zone adjacent to Lake Simcoe to a minimum of 30 metres where feasible.

6.34-DP *Where, through an application for development or site alteration, a buffer is required to be established as a result of the application of the PPS, the buffer shall be composed of and maintained as natural self-sustaining vegetation.*

2.4 Lake Simcoe and Region Conservation Authority

The southeastern portion of the subject property comprises lands regulated by the Lake Simcoe Region Conservation Authority (LSRCA), associated with the shoreline area of Lake Simcoe (**Map E**). Development proposed within the LSRCA regulated lands must obtain permit authorization under the *Conservation Authorities Act (Ontario Regulation 179/06*) and comply with the LSRCA's *Watershed Development Guidelines* (2015).

In accordance with Section 4.0.3 of the LSRCA's Guidelines: *all new **development** shall be setback a minimum distance of 30 metres from the normal **high watermark** of Lake Simcoe and the edge of low flow channels of all **watercourses**. Additionally, where there is a defined top of bank/slope, development shall generally be located no closer than 15 metres from the **top of bank/slope**. Exceptions may be permitted within existing **settlement areas** or where lot sizes are restricted*". Furthermore, Section 4.0.4 specifies that "*in accordance with the LSPP, a **vegetation protection zone** comprised of vegetation which is native and non-invasive to the **watershed** shall be maintained or established as a condition of approval*".

Map E. LSRCA Regulation Mapping (Regulation Area = red line and yellow shaded area)

2.5 Endangered Species Act (2007)

Species designated as *Endangered* or *Threatened* by the Committee on the Status of Species at Risk in Ontario (COSSARO, 2007) are listed as Species at Risk in Ontario (SARO). These species at risk (SAR) and their habitats (e.g., areas essential for breeding, rearing, feeding, hibernation and migration) are afforded legal protection under the *Endangered Species Act* (ESA) (Government of Ontario, 2007).

The protection provisions for species and their habitat within the ESA apply only to those species listed as *Endangered* or *Threatened* on the SARO list, being Ontario Regulation 230/08 of the ESA. Species listed as *Special Concern* may be afforded protection through policy instruments respecting significant wildlife habitat (e.g., the Provincial Policy Statement) as defined by the Province or other relevant authority, or other protections contained in Official Plan policies.

There are two key protection provisions in the ESA:

- Section 9 describes prohibited activities (e.g., kill, harm, harass, possess, collect, buy and sell) for species listed as extirpated, endangered or threatened on the SARO List.
- Section 10 prohibits the damage of destruction of protected habitat of species listed as extirpated, endangered or threat.

2.6 Migratory Birds Convention Act (1994)

The *Migratory Birds Convention Act*, MBCA (1994) and Migratory Birds Regulations, MBR (2014) protect most species of migratory birds and their nests and eggs anywhere they are found in Canada. General prohibitions under the MBCA and MBR protect migratory birds, their nests and eggs and prohibit the deposit of harmful substances in waters / areas frequented by them. The MBR includes an additional prohibition against incidental take, which is the inadvertent harming or destruction of birds, nests, or eggs.

Compliance with the MBCA and MBR is best achieved through a due diligence approach, which identifies potential risk, based on a site-specific analysis in consideration of the Avoidance Guidelines and Best Management Practices information on the Environment Canada website.

3. Study Approach

The approach to the study has been scoped in consideration of existing site conditions, applicable policy, and feedback received through ongoing agency liaison.

3.1 Background Review

Palmer has reviewed relevant background material to provide a focus to field investigations and ensure compliance with applicable regulations and policy. Background information collection is guided by the *Natural Heritage Information Request Guide* (Ministry of Natural Resources and Forestry, 2018). Current direction from the Ministry of Natural Resources and Forestry (MNRF) and Ministry of Environment, Conservation and Parks (MECP) is to gather natural heritage information and species occurrence records from available sources; the Natural Heritage Information Centre (NHIC) Make-a-Map application being the main source of information and records from the Ministry itself (Ministry of Natural Resources and Forestry, 2019). Information gathered is recommended to be balanced and supplemented by professional ecological review of potential habitats and characteristics of a project site.

Background review included the collection and review of relevant mapping and reports, including regulations and policies, Official Plans and the NHIC Make-a-Map application for species occurrences and designated area mapping. In addition to these, the following data sources were reviewed for the project:

- **Land Information Ontario (LIO):** certain data types including aquatic resource area (ARA) information is available through these publicly available data layers (Government of Ontario, 2020).
- **Conservation Authorities:** CVC collects and maintains natural heritage mapping and data, and publish reports, that all provide regional and often site-specific ecological context.
- **Aerial Photography, including historical photos:** Available on-line mapping sources were reviewed to identify current potential habitat types, biogeography and terrain. Historical photos were reviewed to identify past land uses (University of Toronto, 2020).

Following the *Information Request Guide*, MECP advice and direction should be solicited once potential Species at Risk (SAR) requirements associated with the *Endangered Species Act* are identified via field investigation and analysis.

3.2 Ecological Surveys

Field investigations were conducted at the Subject Property in 2021 as summarized in **Table 1**, below.

Table 1. Field Investigations Summary

Date	Field Investigations	Weather Conditions
October 28, 2021	Ecological Land Classification, Tree Inventory, Incidental Wildlife Observations	12ºC, 75% Cloud Cover, light to moderate winds

The methodology associated with each of these surveys are summarized through subsections 3.3.1 and 3.3.4, as follows.

3.2.1 Vegetation and Flora

Vegetation communities were mapped and described following the Ecological Land Classification (ELC) System for Southern Ontario (Lee, et al., 1998) and 2008 update tables (Lee, 2008). Vegetation community boundaries were delineated on field maps through the interpretation of recent aerial photographs and refined in the field. Information collected during ELC surveys includes dominant species cover, community structure, as well as level of disturbance, presence of indicator species, and other notable features.

Botanical surveys were completed by traversing the site and recording species observed in each vegetation community during the spring season. Provincial plant status was based on the Provincially Rare Flora of Ontario (Oldham & Brinker, 2009) and the Natural Heritage Information Centre (Ministry of Natural Resources and Forestry, 2020). Searches for Butternut (Endangered) were completed during the field surveys.

3.2.2 Tree Inventory

The tree inventory was completed by an International Society of Arboriculture (ISA) Certified Arborist on October 28, 2021. A tree inventory was completed for all woody perennial plants which have reached or can reach a height of at least 1.5 metres (m) at physiological maturity, as defined in Barrie's Tree Protection Manual, within and adjacent of the Subject Property. Information collected during the inventory included species name, tree tag number, diameter at breast height (DBH), percentage of dead branches, a general health assessment (structure and vigour), dripline, crown class, and notes on tree trunk and canopy conditions.

3.2.3 Wildlife

3.2.3.1 Incidental Wildlife

Incidental observations of wildlife were made during the field investigation. Palmer ecologists assessed the Subject Property and adjacent lands, noting any evidence of wildlife or sensitive habitat features (e.g., potential amphibian breeding habitat, stick nests) as well as gaining a general characterization of available habitat. A habitat suitability assessment for any Significant Wildlife Habitat (SWH) characteristics was conducted as part of the field information gathering efforts in order to determine whether any SWH was present, potentially present, or absent within or adjacent to the Subject Property.

3.2.4 Species at Risk

Prior to field work, existing SAR records were queried via the NHIC database and professional experience of potential habitats seen on current air photos. During field studies, habitat opportunities for SAR on and adjacent to the Subject Property were then assessed by comparing habitat preferences of species deemed to have potential to occur to current site conditions. The species noted during the NHIC search and others known through professional experience to have potential to occur in urban environments were assessed

by comparing habitat preferences of species deemed to have potential to occur against current site conditions.

4. Existing Conditions

4.1 Vegetation and Flora

4.1.1 Vegetation Communities

There were no standard vegetation communities identified on the Subject Property during Palmer's 2021 investigations. The Subject Property, in its current state, is entirely occupied by a commercial building containing several stores, and associated parking (**Photo 1** and **2**). Small areas of manicured boulevard and raised landscape beds were present. In the immediate vicinity of the Subject Property, Sam Cancilla Park is located to the east with a manicured lawn and planted trees. The shoreline area of Lake Simcoe is located to the southeast of the Subject Property (**Photo 3** and **4**). Existing site conditions are depicted on **Figure 2** and described as follows.

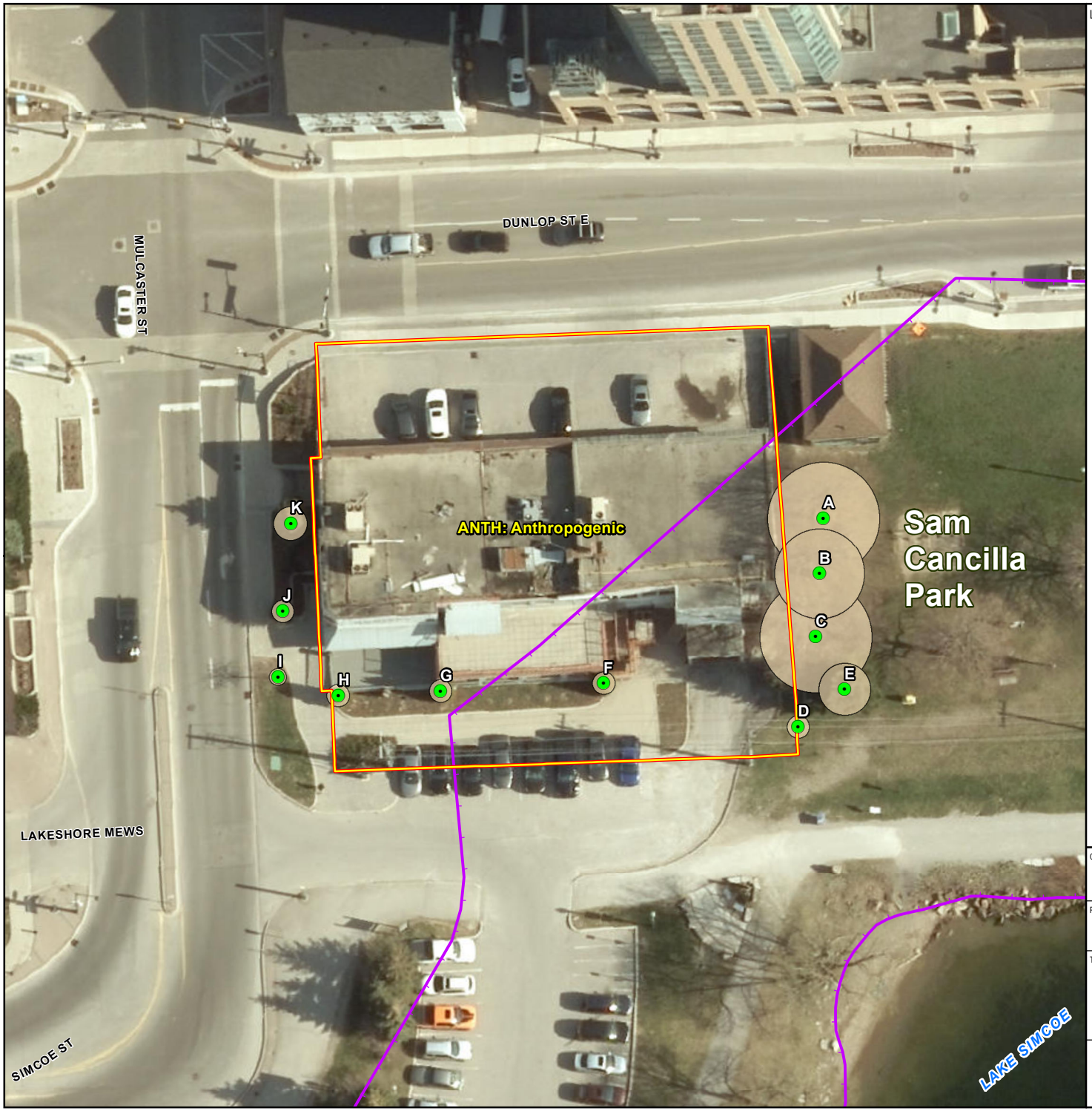
Photo 1. View of the south side of the commercial building on the Subject Property

Photo 2. View of the north side of the commercial building on the Subject Property

Photo 3. Sam Cancilla Park east of the Subject Property

The nearby Lake Simcoe shoreline is stabilized with large angular stone. Mature willows (*Salix* sp.) and Manitoba Maple (*Acer negundo*) were noted along the shoreline area. The ground cover along the shoreline included Coltsfoot (*Tussilago farfara*), Milkweed (*Asclepias syriaca*) and Wild Carrot (*Daucus carota*).

Photo 4. Shoreline of Lake Simcoe southeast of the Subject Property



LEGEND

- Inventoried Tree with Canopy
- Ecological Land Classification (ELC)
- LSRCA Regulation Limit
- Subject Property (0.16 ha)

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METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

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Drawn: CV
Checked: RA
Date: Jun 23, 2023

Source Notes:
Imagery (2016) provided by City of Barrie map service

NORTH

CLIENT

CIR Contracting

PROJECT

149 Dunlop Street East, Barrie

TITLE

Existing Environmental Conditions

Palmer™

REF. NO. 2110601-2-2

Figure 2

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4.1.2 Tree Inventory Results

The tree inventory included a total of 11 planted individuals with DBH's ranging from 3 to 55 cm (**Figure 2**). The majority of the inventoried trees were native species (81%) (**Table 2**). Several of the trees noted during the tree inventory did not originate on the Subject Property, but a significant portion of their canopy overlap with the Subject Property boundaries (**Figure 2**), requiring consideration as part of future development works. Among the individual trees, Little-leaved Linden (*Tilia cordata*) and Eastern White Cedar (*Thuja occidentalis*) were the dominant tree species, followed by Blue Spruce (*Picea pungens*). There were no tree groups inventoried. There were no Species at Risk (SAR) trees observed. The full tree inventory is provided in **Appendix B**.

Table 2. Summary of Tree Inventory Results

Tree ID	Scientific Name	Common Name	General Notes	Total
A	*Tilia cordata*	Little-leaved Linden	Good health; 10% leaf canopy die-back	1
B	*Tilia cordata*	Little-leaved Linden	Good health; 10% leaf canopy die-back	1
C	*Tilia cordata*	Little-leaved Linden	Good health; 20% leaf canopy die-back	1
D	*Picea pungens*	Blue Spruce	Fair, east side die-back	1
E	*Picea glauca*	White Spruce	Good Overall Health	1
F	*Thuja occidentalis*	Eastern White Cedar	Planted in raised garden	1
G	*Thuja occidentalis*	Eastern White Cedar	Planted in raised garden	1
H	*Thuja occidentalis*	Eastern White Cedar	Planted in raised garden	1
I	*Prunus* sp.	Cherry sp.	Planted in raised garden	1
J	*Juniperus* sp.	Juniper	Planted in raised garden	1
K	*Picea pungens*	Blue Spruce	Planted in raised garden	1
Total no. of inventoried trees (including approx. no. of trees within groups)				11

4.1.2.1 Trees to be Retained

At this time, it is anticipated that Trees A to E will be able to be retained for the most part; however, partial pruning of canopies and possibly roots may be required in order to accommodate development within the Subject Property Limits.

4.1.2.2 Trees to be Removed

Due to their proximity to the proposed development, and situation within existing raised garden beds, trees F to K will be removed as part of the future construction works. All trees are planted.

4.2 Species at Risk

Prior to site visits, the Subject Property was screened for potential SAR habitat opportunities through background review and professional experience. Species were identified through the MNRF's Map-a-Map application (Ministry of Natural Resources and Forestry, 2021). Habitat opportunities for SAR on the property were assessed by comparing habitat preferences of species deemed to have potential to occur against current site conditions (**Appendix C**).

Due to the limited availability if habitat, there were no SAR species identified as having potential to occur within the Subject Property. There is potential for the following species to occur adjacent to the Subject Property within Lake Simcoe and associated parkland:

- Black Redhorse (*Moxostoma duquesnei*) – Threatened
- Midland Painted Turtle (*Chrysemys picta marginata*) – Special Concern
- Snapping Turtle (*Chelydra serpentina*) – Special Concern
- Yellow-banded Bumblebee (*Bombus terricola*) – Special Concern

Black Redhorse, a threatened fish species in Ontario, is identified as occupying Lake Simcoe (DFO 2023). Black Redhorse typically occupies medium sized rivers and streams that have gravel or sandy bottoms and are generally intolerant to high levels of turbidity in the water (MNRF 2014a).

Midland Painted Turtles generally prefer aquatic habitats with soft bottoms and abundant basking sites and aquatic vegetation. These turtles often bask on shorelines or on logs and rocks that protrude from the water (Ontario Nature 2023).

For Snapping Turtle, there is potential for nesting habitat along the nearby shoreline of Lake Simcoe southeast of the Subject Property with gravel and sand substrate (MNRF 2014b). There is also potential for habitat for Yellow-banded Bumblebee, as they are habitat generalists and frequent areas with abundant nectaring plants (MNRF 2016). No SAR or any evidence of their presence (e.g., nests or roots) were observed during the 2021 field investigations on the Subject Property.

As part of the tree inventory works, a concurrent bat maternity roosting survey was completed for all trees within and adjacent to the Subject Property to verify if any supported habitat features suitable for bat maternal roosting activities. No such suitable trees were identified.

5. Assessment of Significance

5.1 Vegetation and Flora

5.1.1 Vegetation Communities

As outlined in the existing conditions portion of this report, the vegetation and floral considerations for the property are very low as the majority of the property exists as urbanized landscape with only a few portions of planted gardens or manicured lawn.

Overall, the significance of the vegetation communities of the property is considered low, and no significant vegetation features (ex. Woodlands or wetlands) exists onsite. Impacts to existing planted trees are discussed in Section 7, below.

5.2 Species at Risk

From review of the SAR species records gathered as part of Palmer's background review, the Subject Property does not provide suitable habitat.

Aquatic (fish) and semi-aquatic species (turtles) noted in Section 4.2 would not utilize the Subject Property for habitat and would only frequent offsite areas that are associated with Lake Simcoe or its shoreline.

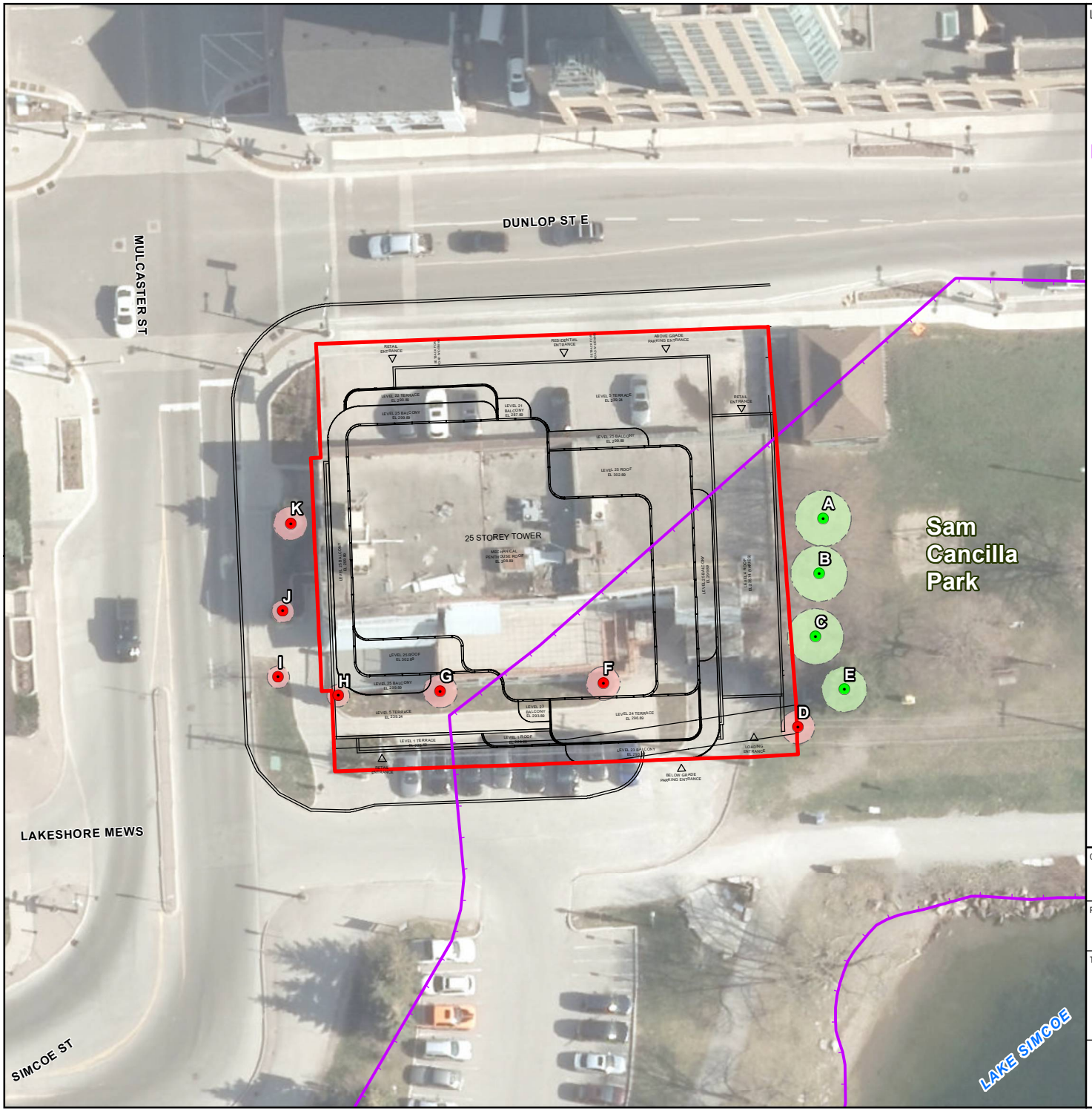
Due to a lack of nectaring plants and general vegetation, the Subject Property would not be suitable for Yellow-banded Bumble Bee.

6. Proposed Development Plan

As highlighted on **Figure 3**, the proposed development of the Subject Property features a 25-storey residential tower and includes several associated terraces, balconies, and entrances.

Stormwater considerations associated with the proposed development are currently being developed by Urbanworks Engineering Corporation (Urbanworks). Once available a stormwater summary will be provided.

Landscape design associated with the proposed development is currently being developed by SGL Planning & Design Ltd. (SGL). Once available, a landscape summary will be provided.



LEGEND

- Inventory Tree *with TPZ* to Retain
- Inventory Tree *with TPZ* to Remove
- LSRCA Regulation Limit
- Development Plan
- Subject Property (0.16 ha)

10 5 0 10

METRE SCALE

North American Datum 1983
Universal Transverse Mercator Projection Zone 17

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Imagery (2022) provided by City of Barrie map service

NORTH

CLIENT
CIR Contracting

PROJECT
149 Dunlop Street East, Barrie

TITLE
Proposed Development

Palmer

REF. NO. 2110601-3-4

Figure 3

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7. Impact Assessment and Mitigation

7.1 General Vegetation and Wildlife

The following protection and mitigation measures have been identified to minimize impacts to vegetation and any associated wildlife that may utilize the Subject Property trees:

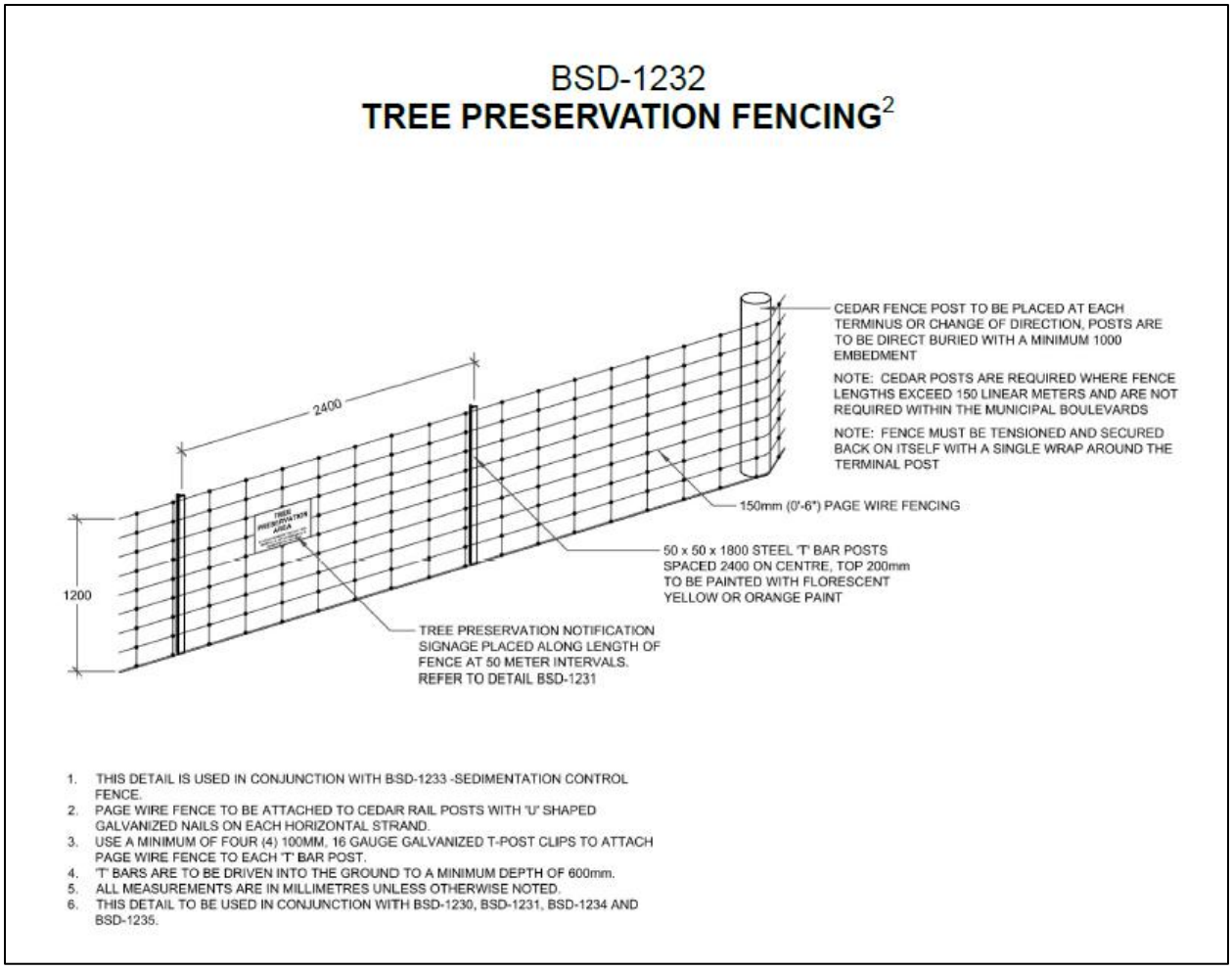
- Sediment and erosion control fencing must be installed prior to any works.
- Vegetation clearing is to be completed between October 1st and March 31st to avoid impacts to wildlife.
- Any future landscaping associated with the property will be encouraged to incorporate native trees, shrubs or grasses.

7.1.1 Tree Inventory

All trees inventoried within the boundaries of the Subject Property are proposed for removal. As stated in Section 4, all trees within the boundaries of the Subject Property are planted varieties that are restricted to remaining garden beds of the former commercial property. These trees provide limited ecological function.

Overhanging trees situated within the portion of the Sam Cancilla Park lands that abut the Subject Property are intended to remain. Despite this, pruning to the existing canopies or root systems may be necessary to accommodate development. These trees may provide some limited ecological function to nesting birds or other urban-tolerant wildlife.

It is further recommended that tree protection fencing be installed along the eastern Subject Property boundary to protect Trees A – D, located on the east adjacent park lot. Fencing provides protection from potential damage during construction activities such as the use of machinery near trees and branches, and stockpiling of materials over the root zone. Fencing should be installed as per the City's Standard Details (as below), wire fencing should be installed with a minimum height of 900 mm.



7.2 Species at Risk

Through Ecological Land Classification and field investigations for potentially suitable habitat and related features, a habitat screening and assessment was completed for SAR as summarized in **Appendix B**. Based on the SAR, Palmer has identified potential risks of impacts to habitat and individuals for 4 SAR and has recommended specific mitigation measures for each as also outlined in **Appendix B**).

The complete impact assessment details are provided in **Appendix B,** while the following summary identifies the mitigation and protection measures specific species that have been confirmed as present on site or have a higher potential of occurring (e.g., SAR bats).

Black Redhorse

- *Despite records being identified within the adjacent areas of Lake Simcoe, suitable habitat for Black Redhorse (medium-sized rivers with gravel substrate) is not identified within proximity to the Subject Property.*

Endangered Bats

- *As SAR bats hibernate in caves generally from late September to early April, tree removal must occur within this period to avoid harm or impacts to individuals (i.e., tree clearing only between October 1 to March 31st).*

Midland Painted Turtle

- *Areas with habitat opportunities will be protected and are removed from proposed development and provided with 10 m buffers. The Subject Property is situated greater than 10 m from the Lake Simcoe shoreline, therefore no potential impacts to Midland Painted Turtle are anticipated as part of the proposed development.*

Snapping Turtle

- *Areas with habitat opportunities will be protected and are removed from proposed development and provided with 10 m buffers. The Subject Property is situated greater than 10 m from the Lake Simcoe shoreline, therefore no potential impacts to Snapping Turtle are anticipated as part of the proposed development.*

Yellow-Banded Bumble Bee

- *As the Yellow-Banded Bumble Bee are habitat and foraging generalists and the Subject Property exhibits limited nectaring vegetation, no habitat impacts are anticipated as part of the proposed development.*

7.3 Lake Simcoe Aquatic Habitat and Stormwater Management

During construction, grading and construction activity may have potential to adversely impact the nearby Lake Simcoe aquatic environment. Such impacts may include sedimentation to downstream receiving habitats located away from proposed development within Lake Simcoe, and elevated levels of turbidity.

If not properly mitigated, post-development impacts associated with stormwater management considerations have the potential to direct sediments and human-made contaminants towards Lake Simcoe.

In order to ensure that potential short or long-term impacts to the nearby aquatic environment of Lake Simcoe are minimized, a number of mitigation measures have been identified for implementation.

The site-specific mitigation for short- and long-term impacts is outlined below:

Mitigation for Short-term Impacts

- Implementation of a comprehensive erosion and sediment control (ESC) plan is recommended to enclose and isolate the entirety of the proposed development envelope to avoid entry of sediment into Lake Simcoe. Complete regular inspection during the construction phase of development and make all necessary repairs if any damage occurs.
- Minimize vegetation removal between the proposed development envelope and Lake Simcoe.
- No development encroachment (temporary vs. permanent, hardscape or softscape) is recommended within 20 m (the existing southeast corner of the Lot Parcel) of Lake Simcoe.

- Disturbed areas that are to remain exposed for longer than 14 days should be stabilized. Stabilization can be achieved through the application of fibre matting, straw mesh, or terra-seeding. Application of sod is another viable stabilization option, but not required.

Mitigation for Long-term Impacts

- Utilize stormwater management techniques that utilize a 'treatment train' approach where multiple measures are incorporated to maintain downstream water quality and reduce introduction of suspended solids to natural aquatic environments.
- Vegetate any disturbed areas by planting and seeding preferably with native trees, shrubs or grasses and cover such areas with mulch to prevent erosion and to help seeds germinate. If there is insufficient time remaining in the growing season, the site should be stabilized (e.g., cover exposed areas with erosion control blankets to keep the soil in place and prevent erosion) and vegetated the following spring.

7.4 Buffers and Setbacks

Buffers are generally defined as vegetated areas of land between development areas and sensitive natural features within which no or very limited site alteration may occur. These buffers function to protect the features within the wetland or aquatic environments by way of creating a biophysical barrier between an adjacent land use, such as development, and the natural heritage feature.

As outlined in Section 2.3 of this report, the Lake Simcoe Protection Plan (LSPP) recommends that a vegetation protection zone be established or increased to 30 m. Additionally, as detailed in Section 3.5.2.4 (iii) of Barrie's Official Plan, Level 3 resources, which the Subject Property is within, represent "*significant and supporting components of the Natural Heritage Resource network. There is opportunity for development if the proposal ensures the protection and buffering of the significant feature and/or retains the supporting function of the feature."*

The site is located within the existing urban boundary of the City of Barrie and is constrained on all side by existing development, existing roadways, or existing park and trail lands associated with Sam Cancilla Park. Due to limitations with the site's size, the establishment or increase in a vegetation protection zone as outlined under the LSPP is not feasible. However, the proposed development is confined to the existing developed lot which is situated 20 m from the Lake Simcoe shoreline. No additional development is proposed between the Subject Property and Lake Simcoe.

8. Policy Conformity

8.1 Provincial Policy Statement (2020)

As outlined in Section 2.1 of this report, no significant natural features or wildlife habitat exists within the Subject Property. As such, the natural heritage requirements outlined in Section 2.1 of the Provincial Policy Statement (PPS) are addressed.

8.2 City of Barrie Official Plan (2023)

As outlined in Section 2.2.1 of this report, the Subject Property is within proximity to a Level 3 Natural Heritage Resource, being the Lake Simcoe shoreline. As detailed in Section 5.4.2.3 of Barrie's 2023 Official Plan, Level 3 resources represent "*more regionally or locally significant features and supporting components of the Natural Heritage System network."* An EIS is required for any development proposals located within 30 m of Level 3 areas identified on Schedule H of the City's Official Plan.

The requirement of the EIS has been fulfilled with the completion of this report. To continue to protect the Level 3 resource, being the Lake Simcoe shoreline, development will be confined to the existing lot limits, and no development is proposed within 20 m of the Lake Simcoe shoreline. Due to the existing urban land use of the Subject Property, all future development will utilize the existing urbanized footprint of the commercial structure and associated parking lot.

8.2.1 Tree Preservation

As all trees located within the Subject Property are located on private property, are to be captured as part of site plan application to be approved by the City of Barrie, and do not constitute a portion of a woodland at least 0.2 ha in size, they are exempt from the City's Tree Preservation By-Law (No.2014-115). However, to mitigate for lost trees within the private property, it is recommended that trees be replaced in at least a 1:1 ratio. As such, a total of 6 replacement trees are recommended to incorporated into future landscaping designs.

8.3 Lake Simcoe Protection Plan (LSPP)

As discussed in Section 2.3 of this report, the majority LSPP requirements do not apply to the Subject Property as watercourses, wetlands, valleys, and/or natural riparian areas are not contained within the site boundaries.

To address landscape, stormwater management and buffer/setback considerations, the following is provided:

- As part of the ongoing landscape planning associated with the proposed development, inclusion of native trees, plants and grasses will be incorporated to the greatest extent feasible.
- Stormwater management captured from the development roof will be managed to ensure downstream water quality is maintained and introduction of deleterious substances to Lake Simcoe

is properly mitigated. The specifics of the stormwater management plan will be provided by Urban Works.

- Due to the location and existing land use (commercial, urbanized) a 30 m buffer from the Lake Simcoe shoreline is not feasible. To maintain existing conditions the proposed development will utilize the existing urban footprint of the existing commercial development and associated parking lot and no new development is proposed within 20 m of the Lake Simcoe shoreline (**Figure 3**) and will be confined to the Subject Property's lot boundaries.

8.4 Lake Simcoe Region Conservation Authority (LSRCA)

To proceed with the proposed development a permit from the LSRCA in accordance with the regulations of Ontario Regulation 179/06 will be required. The permit should be obtained prior to any construction activity taking place within the Subject Property.

As outlined in Section 2.4 of the report, Section 4.0.3 of the LSRCA's Guidelines: *all new **development** shall be setback a minimum distance of 30 metres from the normal **high watermark** of Lake Simcoe and the edge of low flow channels of all **watercourses**. Exceptions may be permitted within existing **settlement areas** or where lot sizes are restricted*".

Due to the existing lot's close proximity to Lake Simcoe (i.e., 20m; **Figure 3**) and the existing urbanized land use, maintenance of a 30 m setback from the normal high watermark is not feasible.

8.5 Endangered Species Act (2007)

Within the confines of the Subject Property, no SAR or SAR habitat are identified. All downstream impacts that may be associated with management of stormwater run-off will be addressed through proper mitigation and will be outlined Urban Works' report.

Snapping Turtle and Midland Painted Turtle are both designated as "Special Concern", and as such specific Habitat Protection does not apply; however, impacts to these species are expected to be mitigated through maintenance of existing setbacks to Lake Simcoe, compliance with timing windows for vegetation removals, and other measure details in this EIS.

As outlined in this report, no suitable maternity roosting habitat for bats was noted on the Subject Property during field investigations. However, to ensure the protection of endangered bat species, it is recommended that any tree removal be completed between late October and early April avoid harm or impacts to bats which hibernate during this period.

8.6 Migratory Birds Convention Act (1994)

Works with potential *Migratory Birds Convention Act* (MBCA) implications will occur during the construction phase of the project when the existing commercial space is demolished and trees F to K are removed. Compliance with the MBCA may be achieved using the following due diligence approach:

Proponent awareness of the MBCA and the potential for bird nesting in the area and for inadvertent impacts to migratory birds, nests, and eggs. Avoiding tree/vegetation removal within the “regional nesting period” for this area (generally April 1 – August 31). Should vegetation removals be proposed within this timeframe, then it is recommended that the areas first be screened by a qualified biologist to ensure compliance with the *Migratory Birds Convention Act*.

9. Conclusions

The provided EIS contains the results of an assessment of existing natural heritage features and applicable environmental legislation through a general background review, onsite field investigations, and review of relevant policy documents. Based on the findings and recommendations of the report, it is our opinion that with the implementation of the mitigation measures as provided, the proposed development is environmentally feasible and no negative impacts to the natural environment are expected consistent with the applicable policies. Please let us know if you have question or comments on this submission.

10. Certification

This report was prepared, reviewed, and approved by the undersigned:

Prepared By:

Joel Davey, B.BRM, MES
Aquatic Ecologist

Reviewed By:

Erin Donkers, B.Sc. PG [ER]
Senior Ecologist

Approved By:

Dirk Janas, B.Sc.
Principal, Senior Ecologist

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Appendix A

Tree Inventory

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Tree Inventory Form

Property/Project: 149 Dunlop St E, Barrie

Project Number: 2110601

Surveyor Name: Erin Donkers

Assisstant Name:

Date: October 28, 2021

Survey Start Time:

Survey End Time:

GOOD: dead branches < 10%, signs of good compartmentalization on wounds, no structural defects
FAIR: 10-30% dead branches, size or occurrence of wounds present some concerns, minor structural defects
POOR: > 30% dead branches, weak compartmentalization, early leaf drop, presence of insects or disease, major structural defects
DEAD: no signs of life

Crown Class: D - Dominant; C - Co-dominant; I - Intermediate; O - Overtopped

GPS #	Tag #	Common Name	Scientific Name	DBH (cm)	% dead branches	Condition (G /F/P/D)		Dripline (m)		Wounds / Compart	Insects / Disease	Comments: e.g. Wounds/compartmentalization, insects/disease, signs of erosion, rot, advanced decay >5 cm	Recommendation (retain, remove, transplant)	Photos
						Str	Vig	1	2					
	A	Little-leaved Linden	*Tilia cordata*	45	<10	G	G	4	4					
	B	Little-leaved Linden	*Tilia cordata*	55	10	G	G	4	4					
	C	Little-leaved Linden	*Tilia cordata*	51	10-20			4	4					
	D	Blue Spruce	*Picea pungens*	18		G-F	G	2	0.5					
	E	White Spruce	*Picea glauca*	37		G	G	3	3					
	F	Eastern White Cedar	*Thuja occidentalis*	11+9+5		G	G	0.5	0.5					
	G	Eastern White Cedar	*Thuja occidentalis*	8+6+6+6		G	G	0.5	0.5					
	H	Eastern White Cedar	*Thuja occidentalis*	3+3+3+5		G	G	0.5	0.5					
	I	Cherry sp.	*Prunus* sp.	10	25	G	F	1.5	1.5					
	J	Juniper	*Juniperus sp.*	9		G	G	1	1					
	K	Blue Spruce	*Picea pungens*	22		G	G	1	1					

Appendix B

SAR Screening Table

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Appendix B: Species at Risk Screening

NAME	SARA STATUS	SARO	COSEWIC	SCHEDULE	S-RANK	HABITAT REQUIREMENTS	SOURCE OF RECORD	POTENTIAL HABITAT PRESENT (Y/N)	RATIONALE	POTENTIAL IMPACTS AND MITIGATION
AVIFAUNA										
Bobolink (*Dolichonyx oryzivorus*)	THR	THR	THR	1	S4B	The Bobolink is found in grasslands and hayfields, and feeds and nests on the ground. This species is widely distributed across most of Ontario; however, are designated at risk because of rapid population decline over the last 50 years (Ministry of Natural Resources and Forestry, 2014). The historical habitat of the bobolink was tallgrass prairie and other natural open meadow communities; however, as a result of the clearing of native prairies and the post-colonial increase in agriculture, bobolinks are now widely found in hayfields. Due to their reproductive cycle, nesting habits, and use of agricultural areas, bobolink nests and young are particularly vulnerable to loss as a result of common agricultural practices (i.e. first cut hay).	NHIC	N	The Subject Property does not contain suitable amounts of open habitat for this species.	None
Chimney Swift (*Chaetura pelagica*)	THR	THR	THR	1	S4B,S4N	The Chimney Swift is a threatened species which breeds in Ontario and winters in northwestern South America. It is found mostly near urban areas where the presence of chimneys or other manmade structures provide nesting and roosting habitat. Prior to settlement, the Chimney Swift would mainly nest in cave walls and hollow tress. The Chimney Swift initially benefitted from human settlement; however, recent declines in flying insects and the modernization of chimneys are factors attributed to their current population declines. As a threatened species, the Chimney Swift receives protection for both species and habitat under the ESA (Ministry of Natural Resources and Forestry, 2014).	NHIC	N	No chimneys or other suitable man-made structures were observed on the Subject Property that would support Chimney Swifts	None
Eastern Meadowlark (*Sturnella magna*)	THR	THR	THR	1	S4B	The Eastern Meadowlark is a bird that prefers pastures and hayfields, but is also found to breed in orchards, shrubby fields and human use areas such as airports and roadsides. Eastern meadowlarks can nest from early May to mid-August, in nests that are built on the ground and well-camouflaged with a roof woven from grasses. The decline in population of these species is thought to be at least partially related to habitat destruction and agricultural practices (Ministry of Natural Resources and Forestry, 2014).	NHIC	N	The Subject Property does not contain suitable amounts of open habitat for this species.	None
HERPTILES										
Midland Painted Turtle (*Chrysemys picta marginata*)	SC	No status	SC	1	No status	Midland Painted Turtle occupy well-vegetated and shallow wetlands (e.g., Marshes, swamps, bogs, fens, ponds and oxbows) and water bodies (e.g., rivers, lakes, streams and creeks) with organic substrate and abundant basking sites. They are found with submergent aquatic plants, which are used for feeding and cover. Suitable nesting habitat includes often south-facing, open and sloped areas with sandy-loamy and/or gravel substrate within 1200 m of aquatic active season habitats. Overwintering occurs in shallow water with deep sediment (COSEWIC, 2018).	NHIC	N	There is no aquatic or wetland habitat on the Subject Property. The Lake Simcoe shoreline to the southeast is not well-vegetated with abundant basking sites.	No disturbance of the Lake Simcoe shoreline in proposed as part of the proposed Development. No impacts to the species or its habitat are identified.
Snapping Turtle (*Chelydra serpentina*)	SC	SC	SC	1	S3	The Snapping Turtle is a species of special concern in Ontario due to the potential for the species to become threatened or endangered as a result of biological factors or other identified threats. While not presently protected by law, the snapping turtle has been recognized as a species of special concern by COSSARO. Snapping turtles spend the majority of their lives in water and travel slightly upland to gravel or sandy embankments or beaches to lay their eggs (Ontario Ministry of Natural Resources and Forestry, 2014).	NHIC	N	There is no aquatic or wetland habitat on the Subject Property. There is potential nesting habitat at the Lake Simcoe shoreline to the southeast of the Subject Property.	No disturbance of the Lake Simcoe shoreline in proposed as part of the proposed Development. No impacts to the species or its habitat are identified.
INSECTS										
American Bumble Bee (*Bombus pensylvanicus*)	No status	No status	SC	No status	No status	American Bumble Bee is found in a range of open habitats such as meadows, grasslands and farmlands. It forages on flowers for nectar and pollen from a variety of plant genera. This bee nests predominately above ground in dense mats of long grass, but also is know to opportunistically nest in abandoned bird nests and rodent burrows well above the ground surface. Overwintering occurs underground and in decomposing organic materal such as compost and rotting logs (COSEWIC, 2018).	NHIC	N	The Subject Property does not contain suitable amounts of open habitat for this species with dense mats of long grass.	The presence of flowering or nectaring plants suitable for bee foraging does not exist on the Subject Property. No impacts to the species or its habitat are identified.
Yellow-banded Bumblebee (*Bombus terricola*)	No status	SC	SC	No status	No status	Yellow-banded Bumble Bee is a habitat generalist within open coniferous, deciduous and mixed-wood forests, wet and dry meadows and prairie grasslands, meadows bordering riparian zones, and along roadsides,in taiga adjacent to wooded areas, urban parks, gardens and agricultural areas, subalpine habitats and more isolated natural areas. Like other bumble bees, the Yellow-banded Bumble Bee is a generalist pollen forager and has been collected from a wide variety of plant species. Queens overwinter, typically by burrowing in loose soil or rotting trees (Benton 2006). Yellow-banded Bumble Bees nest underground (Laverty and Harder 1988), often in abandoned rodent burrows located at depths of 15 to 45 cm with downward sloping entrances (Hobbs 1968; Plath 1927). Nest sites have been located in old fields.	NHIC	N	The Subject Property does not contain suitable amount of vegetation for this species and nesting opportunities. There is potential habitat at the adjacent urban park to the east.	The presence of flowering or nectaring plants suitable for bee foraging does not exist on the Subject Property. No impacts to the species or its habitat are identified.
FISH										

Black Redhorse (*Moxostoma duquesnei*)	Not Listed	THR	THR	No Schedule	S2	In Ontario, the Black Redhorse lives in pools and riffle areas of medium-sized rivers and streams that are usually less than two metres deep. These rivers usually have few aquatic plants, a moderate to fast current, and a sandy or gravel bottom. In the spring, it migrates to breeding habitat where eggs are laid on gravel in fast water. The winter is spent in deeper pools. Adults feed on crustaceans and aquatic insects, while the young fish feed on plankton.	DFO Aquatic SAR mapping	N	There is no aquatic or wetland habitat on the Subject Property. The Lake Simcoe shoreline to the southeast does not provide a lotic (i.e., flowing) environment that Black	No aquatic habitat is present within the Subject Property. It is unlikely that the nearshore aquatic environment is conducive to supporting Black Redhorse. No impacts to the species or its habitat are anticipated.
OTHER										
None										

SC - Special Concern
THR - Threatened
END - Endangered
S1 - Extremely rare in Ontario
S2 - Very rare in Ontario
S3 - Rare to uncommon in Ontario
S4 - Considered to be common in Ontario
S5 - Species is widespread in Ontario
SH - Possibly extirpated
S#S# - Indicates insufficient information exists to assign a single rank.
S#? - Indicates some uncertainty with the classification due to insufficient data.
S#N - Nonbreeding
S#B - Breeding